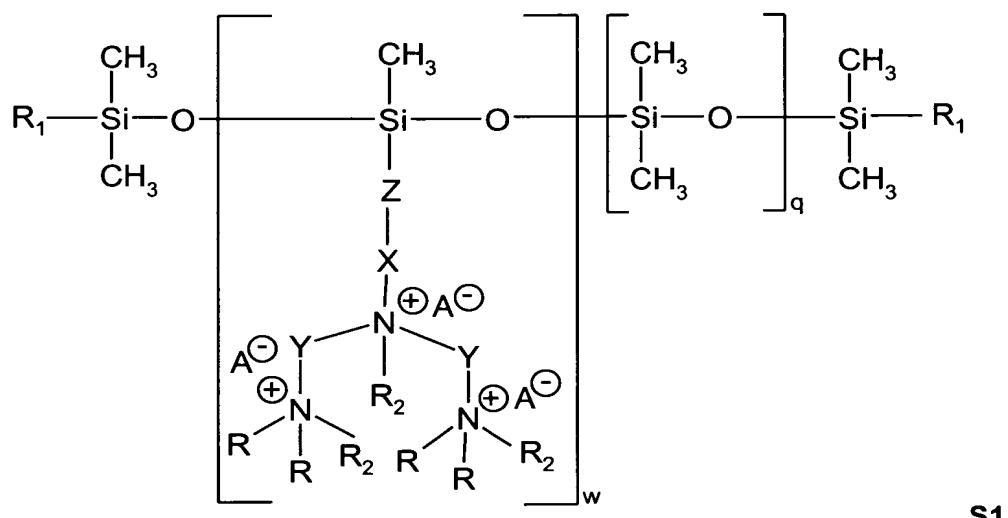


CLAIMS

1. Multiply quaternized polysiloxanes of the formula (S1)

5



where

the sum total of (q + w) has a range of 10-1500 and the q/w ratio has a range of  
10 5-600,

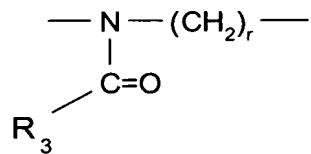
R is C<sub>1</sub>-C<sub>4</sub>-alkyl, linear or branched,

R<sub>1</sub> is hydrogen, C<sub>1</sub>-C<sub>3</sub>-alkyl or C<sub>1</sub>-C<sub>3</sub>-alkoxy,

R<sub>2</sub> is C<sub>1</sub>-C<sub>7</sub>-alkyl or benzyl,

15 X is a direct bond

or



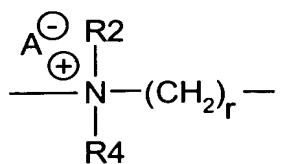
20

where

r is 1-4 and

R<sub>3</sub> is C<sub>1</sub>-C<sub>7</sub>-alkyl or -NH-C<sub>1</sub>-C<sub>7</sub>-alkyl,

or



5

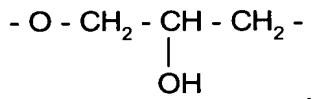
where

$\text{R}_2$  and  $r$  are each as defined above,

$\text{R}_4$  is  $\text{C}_1\text{-C}_3$ -alkyl,

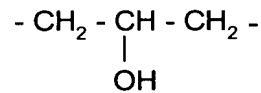
10

or



Y is

15



or

20

$-(\text{CH}_2)_x-$ ,

where

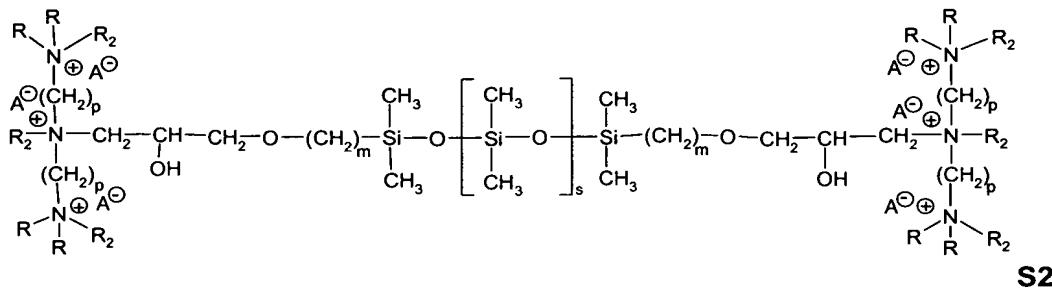
x is 1-4,

Z is  $\text{C}_2\text{-C}_4$ -alkylene, linear or branched and

25

$\text{A}^-$  is  $\text{CH}_3\text{OSO}_3^-$ , chloride, bromide, iodide or tosylsulfate $^-$ ,

or of the formula (S2)



where

R, R<sub>2</sub> and A<sup>-</sup> have the same meaning as in formula (S1),

5      m      is 1 - 4,

      p      is 1 - 4, and

      s      is 5 - 1500

10    2. Multiply quaternized polysiloxanes according to Claim 1 wherein  
 the sum total of (q + w) has a range of 15-600 and the q/w ratio has a range of  
 10-400,

R      is methyl, ethyl or propyl,

15    R<sub>1</sub>      is H, methyl, -OCH<sub>3</sub> or -OC<sub>2</sub>H<sub>5</sub>,

R<sub>2</sub>      is methyl or benzyl,

R<sub>3</sub>      is methyl or -NH-C<sub>4</sub>H<sub>9</sub>,

R<sub>4</sub>      is methyl,

Z      is C<sub>3</sub>-alkylene, linear or branched,

20    A<sup>-</sup>      is CH<sub>3</sub>OSO<sub>3</sub><sup>-</sup> or chloride,

m      is 3,

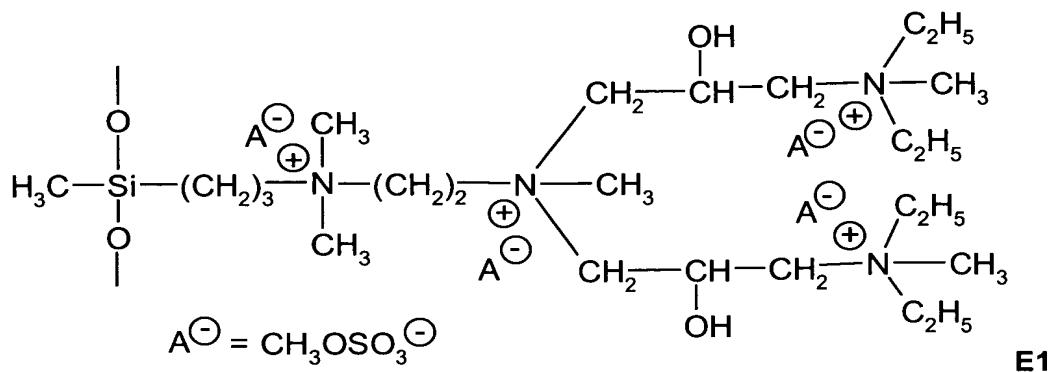
p      is 3,

s      is 10 - 600,

r      is 2, and

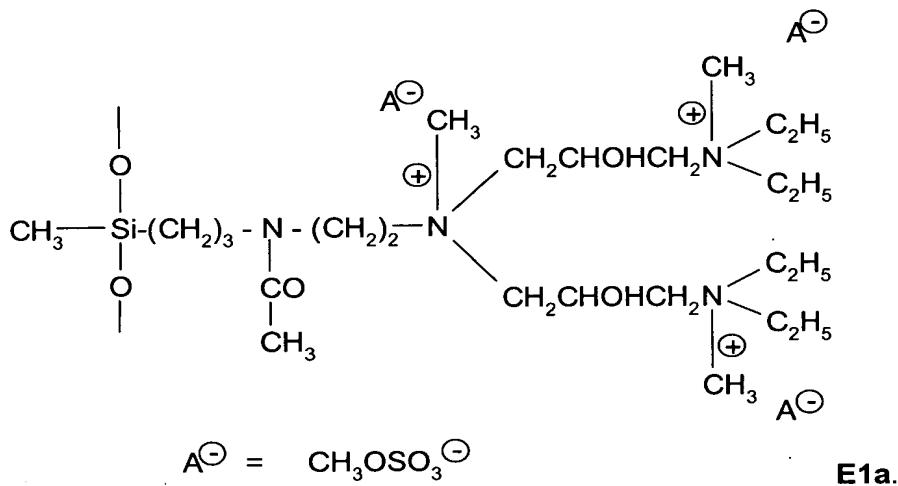
25    x      is 3.

3. Multiply quaternized polysiloxanes according to Claim 1 or 2 having structural units of the formula E1



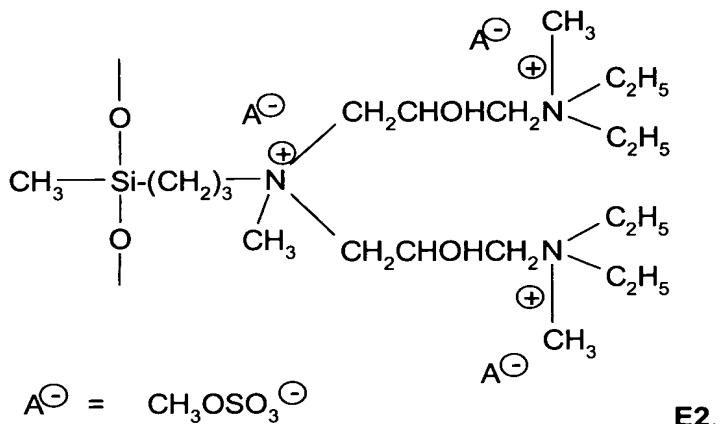
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or having structural units of the formula E1a

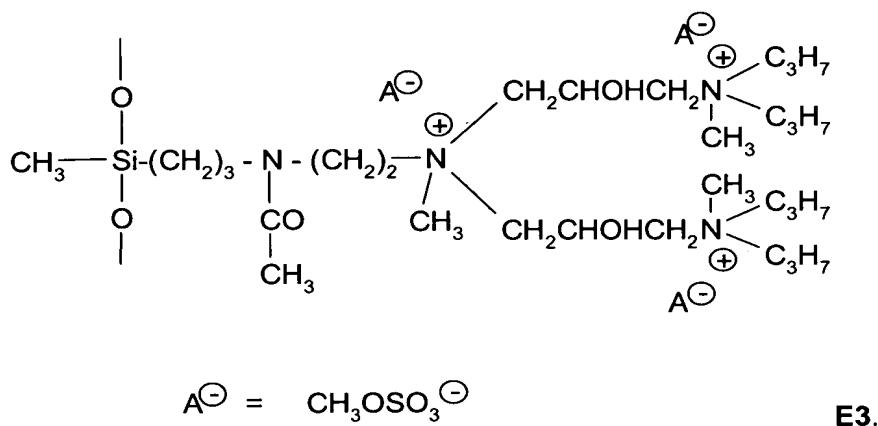


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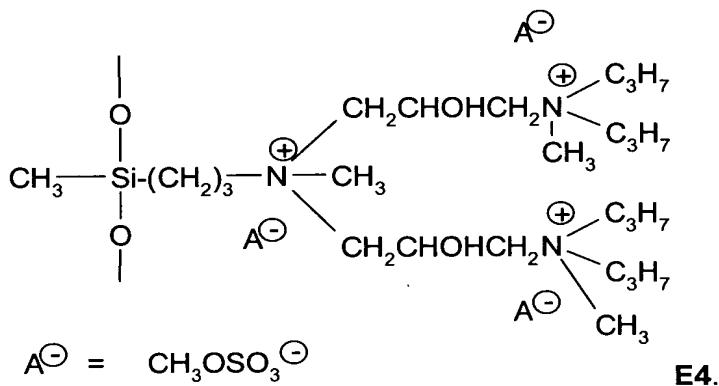
4. Multiply quaternized polysiloxanes according to Claim 1 or 2 having structural units of the formula E2



5. Multiply quaternized polysiloxanes according to Claim 1 or 2 having structural units of the formula E3

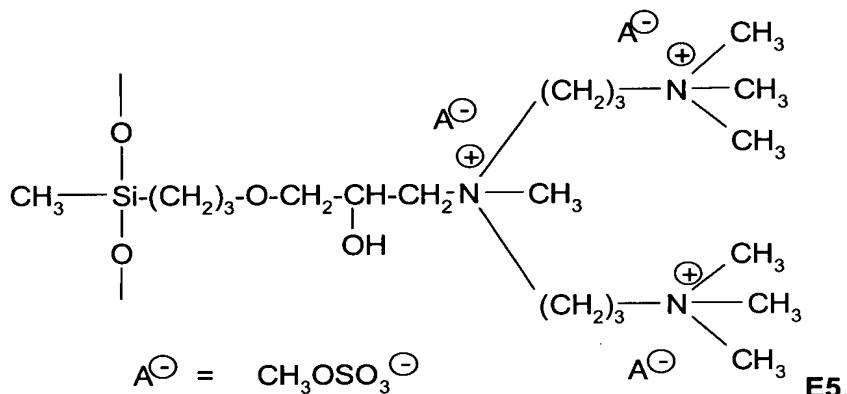


10 6. Multiply quaternized polysiloxanes according to Claim 1 or 2 having structural units of the formula E4

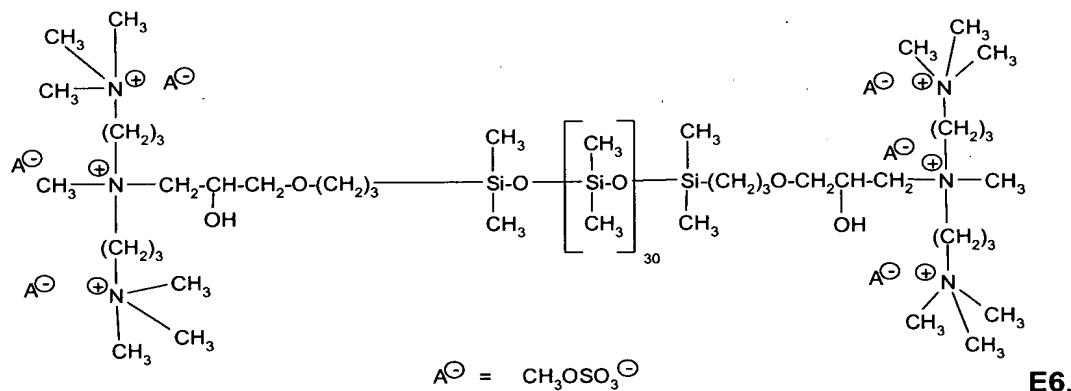


7. Multiply quaternized polysiloxanes according to Claim 1 or 2 having structural units of the formula E5

5



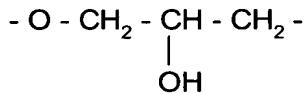
10 8. Multiply quaternized polysiloxanes according to Claim 1 or 2 of the formula E6



9. Process for preparing multiply quaternized polysiloxanes of the formula (S1) according to any one of Claims 1 to 6, characterized in that the following reactions are carried out:

5      A) reaction of dialkylamine with epichlorohydrin to form a glycidylalkylamine,  
B) reaction of the glycidylalkylamine with 3-aminoalkyldialkoxymethylsilane or with 3-(2-aminoalkylamino)alkyldialkoxymethylsilane to form the corresponding silanes,  
C) reaction of the resultant silanes with polydimethylsiloxanediol or with  
10     octamethylcyclotetrasiloxane or with tetraalkyl- or aryltrialkyl-ammonium hydroxide to form polysiloxanes, with subsequent quaternization to form the multiply quaternized polysiloxanes.

15    10. Process for preparing multiply quaternized polysiloxanes of the formula (S1) where Y is  $-(CH_2)_x-$  and X is



20     characterized in that the following reactions are carried out:

A) reaction of N'-(3-(dialkylamino)alkyl)-N,N-dialkylalkane-1,3-diamine with dialkoxy(3-glycidyloxyalkyl)methylsilane,  
B) reaction of the reaction product from A) with polydimethylsiloxanediol or with octamethylcyclotetrasiloxane, with subsequent quaternization.

25

11. Process for preparing multiply quaternized polysiloxanes of the formula (S2) according to Claims 1 or 2, characterized in that the following reactions are carried out:

30    A) reaction of octaalkylcyclotetrasiloxane with 1,1,3,3-tetraalkyldisiloxane,  
B) reaction of the reaction product from A) with an allyl glycidyl ether and a hydrosilylation catalyst;  
C) reaction of the reaction product from B) with N,N,N',N'-tetraalkyldialkylenetriamine to form the polysiloxane and subsequent quaternization.

35

12. Use of multiply quaternized polysiloxanes according to Claims 1 to 8 as a softener in the textile industry.